221 dug near streams for drying; tobacco and salt
222 grass gathered on floor of valleys, cane for
224 sweets at Cane creek; manzanita berries gathered
226 in mts. Fish corralled, dried; fishing at summer fish camps in canyon of unaugmented Kern after snow floods had subsided; mussels obtained near Kernville. Brush fired for rabbits on floor of valleys; communal antelope drive with Yokuts near Bakersfield in San Joaquin valley. Trading expeditions to Yokuts, Chumash at Tejon, Ventura.

Middle of August to September. Piñons gathered in lower borders of piñon areas; juniper berries gathered. Some fishing using fish poison as streams became lower; water too warm for much fishing in lower reaches of Kern r. Birds, small game trapped at piñon grounds; deer hunted.

September to middle of October. Piñons gathered and cached at higher altitudes, e. part of area; wild grapes gathered near Inyo-Kern in Indian Wells valley on return trip from piñon gathering; acorns gathered near hamlets. Small game, birds trapped at piñon grounds; deer hunted.

Middle of October to middle of November. Ripe Digger pine nuts gathered near hamlets and in Hot Springs valley; acorns gathered by women and cached in Greenhorn mts., around Poso Flat, and in Paiute mts. while men hunted deer at acorn grounds; "deer, rabbits fat at this time." Ducks obtained on rivers; fishing with fish poison on Erskine creek in Hot Springs valley. Trips made by families to Tulare lake to eat ducks and fish.

Middle of November to February. Life centered in hamlets; acorn, piñon caches, stores of dried fish, meat drawn upon. Fish speared in November and December from balsas on rivers; deer, rabbits, ducks, quail, etc., occasionally hunted,
●[317 trapped. Individuals made trips across Sierras E
484] to Mohave desert to obtain rock salt from lakes which were in flood at this season.

262 Food preferences and rejections.- Of vegetable
824 foods oily varieties highly esteemed; among acorns which were staple food, oily or sweet varieties which required little leaching preferred. Buckeye nuts, obtainable in quantity on slopes of Kern r. gorge, "too bitter," although occasionally used. Of 2 varieties pine nuts gathered, nuts from piñon pine (referred to throughout as piñons) ranked second to acorns as staple; piñons which had been strung on native twine rated as delicacies; black piñon mush (p. 18) considered better than white. Among small seeds those of 2 varieties of Mentzelia referred to as being better than chia seeds "because they had more grease" (SM).

252 Niceties in matter of diet extended to prepara-
824 tion of food and tobacco. Special varieties of willows, Salix hindsiana Benth. and S. exigua Nutt., used to wrap up fish which were to be roasted, tobacco when it was to be cured, as these willows did not impart any odor to food. Digger
[276] pine nuts, not piñons, mixed with tobacco "because they gave a better flavor" (FP,ES,SM).

[p. 11(b)]

317 135 431 [415] 487 Salt.- Rock salt (uŋa·l) obtained in winter chiefly, from dry salt lake to E in Koso territory between Randsburg and Cantil on n. edge of Mohave desert. Individual men went for it, afoot; "a man started out at 2-3 o'clock in the morning, taking water with him in a basketry water bottle. He returned home the same evening or the next day, bringing back 1/2 sackful of salt, enough for about one month, on each trip" (SM). Route followed led S from Weldon to Kelso valley in Kawaiisu territory, thence SE to Jawbone canyon and Mohave desert and NE to Dry Salt lake. Another route from Onyx led over Walker pass, S across Indian Wells valley to Dove springs and through Red Rock canyon to Cantil. Either route about 40 mi. long. Salt transported in large [482] lumps, in deerskin sacks; when used pounded in mortars or pulverized on slab; used sparingly on cooked meat and for drying meat and fish, but not to season acorn, piñon mush, or any other 262 plant foods. Salt per se not specifically tabooed at certain times (SM, FP), as among Diegueño, 784 Mohave (Kroeber, Handbook, 721, 747, 748, 750); food taboos related specifically to meat (including fish), grease, and cold water. However, as it was only with meat and fish that salt was used, practical result was that observers of meat taboo also abstained from salt during taboo periods.

251 343 Storage and preservation of food.- Acorns stored in granary (la·lwašti·l) of Miwok type (Kroeber, Handbook, 446, pl. 38) but lacking center post and with framework consisting of 4 large posts, 6 ft. high, set upright in ground 3 ft. apart to form square. Bottom of granary cleared ground by 2-4 in. Granary lined with sagebrush; after acorns dumped in, layer of brush piled over them and bark slabs put over brush to keep out rain. Granaries built at acorn grounds used from yr. to yr.; during winter man and wife made trips to their granary and drew upon contents as needed. Smaller granaries of same type sometimes set up near dwelling house to use for acorns gathered nearer home.

Piñon cache (pača·i·ništ) consisted of circular pit, about 5 ft. in diameter, 2 1/2 ft. deep, dug with sticks in floors of natural rock shelters near piñon grounds. Pits lined with flat rocks (SM) or brush (FP); loose piñons dumped into cavity, cache covered with large flat rocks or grass and small stones. During winter men made trips to caches, packing home piñons in skin sacks.

Families generally had storage house near family dwelling; this storage house as large and made in same fashion as living house, save that [415] it lacked fire pit and smoke hole and walls were thatch and mud covered. In this house were kept large wide-mouthed coiled baskets, some "as big as washtubs" and trays used as receptacles for stores of dried meat, fish, small seeds, piñons, acorns, as well as articles of domestic or occa-

302 men, women (SM), women only (FP), for dances. Women, young girls sometimes rubbed mashed roots of Plagiobothrys nothofulvus Gray (ši'iwišt), foothill floral area, over cheeks to color face red; this done merely "to make themselves pretty" (FP). Women also sometimes painted faces with earth and kept paint on all day, staying indoors, [756] "to make face lighter" (FP). Shamans engaging in contests painted faces with alternate stripes of red and white raying out from nose across cheeks; rest of body not painted; paint not applied in ●[317] honor of visitors. Red earth obtained from vicinity of Koso Hot Springs, east of Little lake in Koso territory; Tübatulabal either went for it or Koso brought it to them.

304 Tattooing done on women only; women "had it done because they liked it, to make them look pretty" (FP); not done at any specific age, although small girls were not tattooed "because it hurt too much" (FP). Old woman, not necessarily relative, did the tattooing; all women formerly had one or more marks. Pattern drawn on skin with charcoal (tu·l), obtained from "any wood" (FP); pricked in with spine of Tetradymia spi-
•ncsa H. & W. (pokpo·giništ); marks, black at first, later turned blue. Usually done on face between mouth and chin, on back of hand, inner surface of forearms (fig. 5).

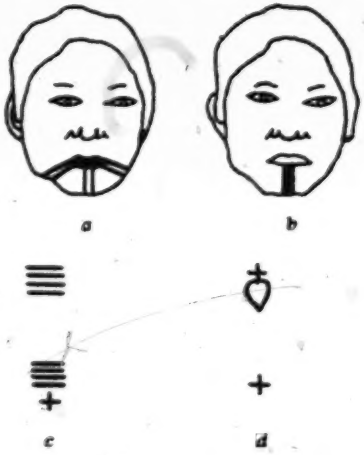

Fig. 5. Women's tattoo patterns. a, b, facial; c, 1½ in. long, inner surface of forearms (FP); d, inner surface of forearm.

Women had septum of nose pierced with pointed hot stick for nose plugs; after piercing, stick kept in hole about 7 days until wound healed. This done "any time" (SM). Lobes of female infant's ears pierced for earrings shortly after birth, "because the baby doesn't feel it much [302] then" (SM). Some men pulled out facial hair around mouth; others wore sparse mustaches (kaŋa·l), 4-5 in. long.

[p. 24(a)]

411 bow was 68 in., width at grip 1 3/4 in., at tips 3/4-in. SM denied that Tübatulabal formerly ever [176] bowed in grip; FC very probably had introduced this feature.

Boys used small plain willow bows and willow [462] arrows "before they began regular hunting" (SM). Bows, arrows made by men only.

Arrows.- War arrows (pa·hal) were 34-36 in. long, with wooden foreshaft (wawpit), some 8 in. long, made from hard wood set into cane mainshaft made from stalks of cane (paha·bI·l), same variety as that from which women obtained sweets (p. 19). Mainshafts also sometimes made from wood. Cane mainshaft (u·gat) straightened by being gently rolled at joints in round groove and over shallow incisions of heated stone arrow straightener (u·gišt). Mainshaft notched at upper end for insertion of bowstring; foreshaft split at end for insertion of arrowhead. War arrows had 3 vanes, square-trimmed, 1 in. wide, set on spirally and attached at each end with sinew; "if only 2 feathers were put on, the arrow didn't shoot straight, it went sideways" (SM). FC's arrows nevertheless had 2 vanes, set on spirally. Feathers from eagles, crows, owls, 3 varieties of hawks among those used. Arrow- [324] heads (kIyi·l) were flaked from obsidian (tu·gu·-pIl tInt, black rock), obtained near Mt. Whitney (SM); from bluish gray rock procured in mts. (SM), at Koso (FP); from a red rock (flint?) obtained near Tejon or on Mohave desert. Stone "cooked" first in fire, then broken into small [412] pieces (FP). Deer-bone awl used to flake arrowheads; palm of left hand protected with piece of buckskin. Heads varishaped (fig. 7), "because some men liked this kind, some that" (ES), but all heads shouldered. Beautifully shaped head (fig. 7), 3 1/4 in. long, 1 in. wide at top, found by FC on old battlefield on Nichols peak, in s. border of Tübatulabal area; SM said this probably head for war arrow, as heads for such ● [317] often 6 in. long(!). Asphalt (tu·šanat) used to set heads into foreshaft; no mention made of sinew lashings. Poison (pohil), source of which was unknown to informants, said to have been used on both war, hunting arrowheads (MM); only on hunting arrowheads (SM).

Hunting arrows (šu·mu·na·l), for use on large game, similar to war arrows save that they were 48 in. long, with 9-in. wooden foreshaft and were often tipped with smaller, black obsidian heads which were inserted rather loosely into foreshaft so that shaft fell out after animal was shot, leaving head firmly embedded; or if shaft did not fall out, it could be pulled out easily, head then cut out with stone knife.

Arrows of foregoing type used with sinew-backed bow; with willow bow cane arrows (šu·mu·-na·l), 40 in. long, 2-3-vaned, tipped with wooden foreshaft, point of which had been sharpened by rubbing on rough rock, used to shoot rabbits, etc. For birds, shorter cane arrows with pointed

415 which was used later to pack back deer; if going to war, man carried quiver slung over left shoulder and tied under right arm with twine.

411 Arrow release.- Man shot either standing or kneeling; if kneeling, weight rested on left knee, which touched ground; squatting position (Kroeber, Handbook, 822, pl. 78) never assumed for shooting (SM). When standing man held bow perpendicularly; if kneeling, horizontally; primary release used in both positions (SM).

Spear.- Although SM denied spears used in warfare, MM, FP both said they were, the spear (ku·yi·l, FP) being a 4-ft. shaft of any sort of hard wood, tipped on end with an obsidian head some 10-12 in. long (MM). This head was "sharp on both edges" (FP); what may have served as spear heads are shown in outline (fig. 7f-h), although SM when shown the red flint originals, from the collection of Miss Shirley Andress, said they were unfinished arrowheads.

TOOLS

412 Knife.- Knives (pigat) used for skinning large
324 game, etc., flaked from obsidian or red quartz;
18 in. (?) long, unhafted, similar in shape to
[171] Owens Valley Paiute knife (Steward, 1933, 261,
fig. 3i). General utility knife (same term),
used for cutting buckskin, shaping bow, etc.,
consisted of flaked obsidian blade about 5 in.
[171 long, set in wooden handle; similar to Owens
317] Valley Paiute knife (Steward, 1933, 261, fig. 3j),
except that Tübatulabal set blade in handle with
asphalt, did not lash it with sinew. Hafted
knives aboriginal (SM).

Adz, wedge, maul.- Informants could give no information on adz, wedge, or maul; presumably these lacking. SM did not know whether trees ever felled, and if so, how; stone axe apparently lacking. Holes in wooden mortars made by burning out wood; stone mortars chipped out; "the gray stone was soft" (SM).

412 Scraper.- Entire lower leg bone of deer used as scraper (iši·bišt) to dehair skins.

Awl.- In sewing moccasins, sacks, quivers, etc., and in flaking arrowheads, knife blades,
[171] an awl (niŋa'adol) similar to Miwok awl (Kroeber,
Handbook, 806, fig. 67h) used; this awl about
[317] 4 in. long, made from leg bone of deer topped
with lump of asphalt; when used, strip of buck-
[462] skin (ma·pu·ništ) wound around palm of right
hand; this awl essentially man's tool.
Women used smaller awl (wīŋabīt), shaped like man's awl, but made from spine of barrel cactus (kīče'apīl) surmounted with small lump of asphalt, when making coiled baskets.

[p. 29(a)]

177
372 steel, but we used the 2 pieces of stone and no
462 steel" (SM). Quarts for these strike-a-lights
[439] obtained from Koso Indians at Koso (FP).

Firewood.- Small trunks of willow (ha·l),
313 Salix laevigata Bebb., branches of Fresno tree
(a·wilibi·l), Fraxinus oregana Nutt., stream
alder (pawiču·l), Alnus rhombifolia Nutt., and
dry oak used chiefly for firewood (kutuga't);
cottonwood (u·'ut, generic name for trees), "too
light" (SM). Firewood broken into 3 to 3 1/2-ft.
lengths for carrying in pack basket; women
[462 packed on back loads of slightly longer lengths,
482] but "not too heavy" (FP); men brought in larger
pieces on shoulder.

GLUE, PITCH, AND ASPHALT

381 Glue.- Deer horns boiled in small amount of
water, in pot, to obtain glue (a·wadin pa·hn,
horn water); used to apply sinew backing to bows.

314 Pitch.- Several varieties pitch (ša·num) used
824 for different purposes; pitch from Digger pine
415 applied to soles of moccasins to make them wear
longer (FP); pitch from bull pine smeared over
torches used in quail hunting. Basketry water
bottles made watertight by putting handful of
red earth of same variety used for face paint,
plus lump of piñon-pine pitch inside finished
bottle, together with quantity of heated pebbles
about size of person's thumb. Hot pebbles shaken
vigorously inside basket for 5-10 minutes; thus
causing pitch to melt, combine with red earth,
and coat inside of container. Hot melted pitch
also smeared over outside of bottle with small
stick; when it had cooled slightly red earth,
mixed with little water, was smeared on top and
mixed in with pitch coating. The red earth, used
in combination with the pitch, made water "taste
sweet"; if pitch alone used, water had "bitter"
taste.

Pitch or gum (ya·bul), obtained from grease-
wood, used to fill walnut-shell dice (FP).

317 Asphalt.- Lumps of asphalt brought into area
[439 by the Indians from around Ventura, when the
574] latter came up for piñons. The Tübatulabal also
visited at Ventura, and one of the things they
brought back from the ocean was asphalt" (SM).
This commodity used in variety of ways, some of
which were: to attach prong to shaft of harpoon,
to attach bone point to fish hook, to cement
foreshaft in cane mainshaft of arrow, and socket
arrowheads into foreshaft, to secure knife blade
in handle, to attach basket hopper to mortar.
Asphalt also used to smear over fishlines made
of native twine, and lumps of it served as knob
handles for bone, cactus spine awls. Asphalt was
softened by melting; often applied with small
stick. Gifford and Schenck (p. 58) also note
presence of asphalt beds on surface in hills SW

● 37 and W of lake region in s. San Joaquin valley, and are of opinion material was well known in lake region at least; TÜbatulabal data extends area of distribution for use of asphalt eastward.

BASKETRY, WOVEN WARE, AND CORDAGE

285 [171] Basketry.- TÜbatulabal basketry "scarcely distinguishable from that of the southern Yokuts; it appears to average a little better in fineness" (Kroeber, Handbook, 608). Coiled and twined ware still used to some extent, but new pieces rarely made now; U.C. museum has collection of 34 TÜbatulabal baskets and basketry implements. All basketry ware manufactured, used by women with exception of tule basket fish traps, made by women, used by both men and women, and basketry tray (wa·t), article of domestic use, but also employed by shamans in shooting contests. [462] [756]

Basket techniques were (a) coiling on multiple-rod foundation, (b) plain twining, (c) 2- and 3-rod diagonal twining. Stitches on some of finer coiled ware run 20-22 to inch, with 9-10 coils to inch. Sewing was from left to right as among Owens Valley Paiute (Steward, 1933, 346, pl. 6b); this opposite to Northfork Mono (Gifford, 1932 b, pl. 16a, b). [171]

285 824 Split willow or tree yucca roots used for 1-2 rounds to start coiled basket; foundation material (wĭnapĭ·l) consisted of 2-3 whole stalks or 4-6 halved stalks of deer grass (mašil, weed), Epicampes rigens Benth., plus, for larger coiled ware, one small peeled shoot of redbud (kada·dihpul), Cercis occidentalis, willow (ša·hat), Salix laevigata Bebb, S. araquipa (Jeps.) Ball, or arroyo willow (ha·l), S. lasiolepsis Benth., S. lutea var. Watsonii (Bebb) Jepson. For finer coiled ware, such as trays, money jars, stalks of deer grass, the foundation materials were split in half; otherwise used whole. Deer grass gathered when green, laid out to dry, then tied up in bunches 2-3 in. in diameter and laid away until needed, grass being split when used.

Light-colored weft material (šĭ·l) for coiled baskets made from finely split willow roots (FP); also from finely split roots of tree yucca, which at certain seasons are light yellowish, at other times red (ES). Coiled baskets decorated in red, or red and black; red weft obtained from tree yucca roots, black material from roots of unidentified shrub (mo·nunt), which grows in wet places (PN, FP), or from antennae of pods of devil's horn, Martynia proboscoidea Glox.; latter plant, which is classified as weed, grown occasionally in gardens now, pods sometimes saved.

For one special type coiled basket (below), foundation consisted of strings of piñons strung on native twine; weft was of twine.

Warp (šĭ·l, also term for weft material), for plain twined baskets made from small whole or split peeled willow or redbud shoots; for diagonal twined ware same, but for some twined ware

415 285 in. high, 6 1/2 in. in diameter at top, 4 in. at base. Used by individuals for drinking soup; also used for shaping biscuits of acorn mush (p. 18).

(f) Meal basket (ponol); was about 16 in. high, flat-bottomed, with sides which curved inward toward top; latter about 6 in. in diameter. Used as container for freshly ground chia seeds, etc. (Fig. 6b.)

(g) Mortar hopper (hoyanut, PN); was made from old cooking basket with bottom cut out; height, diameter varied, depending on size of mortar; some hoppers 6-8 in. deep, 16 in. in diameter across top. Attached permanently to mortar with asphalt; PN had seen hopper attached to small portable stone mortar used for mixing tobacco and lime; FP had seen Bob Rabbit, widowed Kawaiisu rain doctor, using hopper on mortar hole in log at piñon camp, "where there was no stone." Hopper helped prevent small seeds from flying out of mortar during pounding.

● [317]

415 323

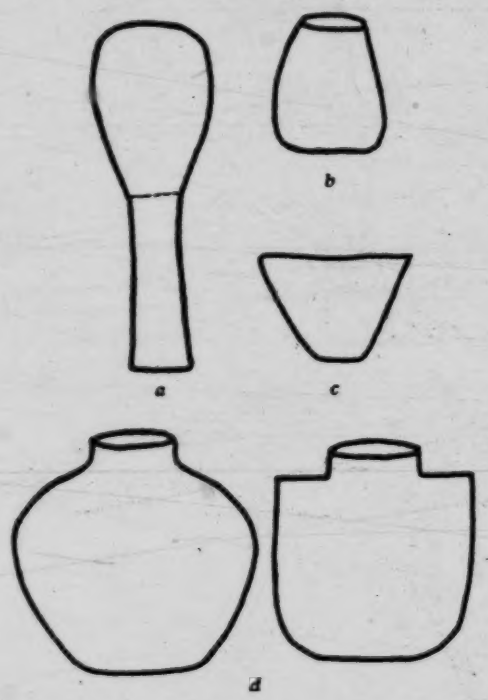

Fig. 8. Basketry and pottery shapes. a, tule tray for drying sweets; upper part, body of tray, lower part, handle end which was folded over at broken line. b, coiled basket used for storing small seeds. c, pottery bowl in Andress collection, height 4 in., width at mouth 4¼ in., thickness ¼ in.; surface find in mts., Tübatulabal area. d, bottleneck money jars (1-20952, 20953).

415 285 (h) Money jar (ukulušt) or "Tulare bottleneck" (fig. 8d); most elaborate basket type; specimen 1-20951, 20953 (O. T. Mason, 479, pls. 193, 194), made by FP's mother, ornamented around

[p. 31(b)]

237 cular mat (či·gon) 3 in. wide, 1 1/2 in. thick, made of shredded native twine. Mat hung up on tree to dry; then stored away; when used, mat soaked in warm water and broken into several pieces; brains sank to bottom of container, shredded twine skimmed off surface of water with hands and thrown away. Brains then stirred into water and hide put in.

281 415 Sacks, purses, flat hides.- Sacks (ma·šat) made from untanned deer, antelope, coyote, wildcat skins. Skin removed whole from carcass by cutting it around neck, lower legs, and anus and peeling it off; skin then turned hair side out, except those used for quivers, and anal and leg openings sewn up with native string, using bone awl. Skin then set up on end, loose dirt poured in through neck hole and skin left to dry for 2-3 days. When dry, dirt poured out and sack ready to use for carrying acorns, piñons, arrows, or for storing food, shell money, etc.

[177] Purse (mu·gulat) of weaselskin used in post-white times to carry silver dollars. Specimen 1-19804, weaselskin purse, labeled "used for Indian money," consists of entire skin which is dehaired, tanned, turned inside out, left open at mouth; SM probably correct in denying such purses [436] used for shell money as latter was kept strung, coiled and any large amount would be too bulky for such small container.

[171] Bear hides tanned with hair left on; scraped, brains rubbed in as among Surprise Valley Paiute (Kelly, 119). Salt grass, cane laid on these tanned hides and flayed; occasionally, hides used as bed coverings.

RECEPTACLES

415 Besides using basketry and rawhide containers, Tübatulabal also made pottery and horn receptacles and apparently used imported steatite ware to slight extent.

323 [462] Pottery.- Despite fact that "all the women used to make pots" (ES, FP), no informant could manufacture one for me, nor are any pots (ka·gul) now extant except one small mended specimen (fig. 8c), provenience of which is doubtful. However, FP had seen her grandmother make pots and SM remembered process sufficiently well to describe it briefly, as follows.

● [317] Red clay (yahawa·l), obtainable from several deposits on floor of South Fork valley, used for pots; ES pointed out one deposit of clay on knoll below village site no. 9 (fig. 11) in field belonging to Charles E. Andress, 1/4 mile E of road leading to village site; another deposit near village site no. 8. Clay dug, finely pounded in pit mortar and mixed with water into dough; no binding material added (FP, SM). Lump of clay flattened into disk with hand, set down on board or, formerly, basketry sifter; roll of clay about

[276] Lime.- Tobacco as prepared above used with lime (či·ut), obtained from calcareous deposits
●317 in South Fork valley, from burnt fresh-water mussel shells, or by magical means. Lime from deposits dug out of ground near surface of soil in form grayish, powdery mass which was put in fire and burned; sometimes water poured over it to "make it stronger" (ES). Informants said slaking aboriginal technique. Shells of river mussels also burned and pounded to powder in pit mortars.
789 In order to obtain lime by magical means, "an old man used to go to a spring E of Fay creek and scatter eagle down on the water, saying, 'Give me your lime'; then the old man would leave the spring and go and lie down in the shade for about 2 hours. When he returned to the spring the lime would be piled up for him at the edge of the spring, ready for him to take away. An old woman who lived in the spring, šo·ubišt, gave him the lime. Anyone could get lime that way" (SM).
276 Tobacco and lime mixed by taking chunk of tobacco broken off ball, equivalent to teacupful, putting this, together with tablespoonful of lime, into small portable stone mortar kept in house for this purpose, and pounding 2 ingredients with small pestle 3-5 in. long, until they were of consistency of snuff. In aboriginal times this snuff-like admixture (šo'ogonht) kept in container made from horn of mt. sheep (SM).

Uses.- Tobacco and lime chewed, drunk, snuffed, eaten by men and women, and also used as offering. For chewing, pinch of mixture sprinkled in palm of hand and palm licked off; FP when using tobacco and lime applied tongue directly to contents of her open tobacco container, which happened to be tin snuff box. Tobacco and lime, mixed with water, also made into small pellets size of marbles; one of these held on tongue for minute or 2, then spit out into palm of hand; this done 6-7 times a day, whenever person felt like it; made person feel "dizzy" and "drunk" (MM). Tobacco without lime never used for any form of chewing; it was "no good, and made one feel sick; taken with lime it tastes peppery and strong" (SM). Many persons chew habitually; children 6 yrs. old "too young to chew tobacco" according to LT, who added, however, that her own son, barely 6, "likes to take it whenever he can get it."
757 Before retiring at night tobacco and lime,
278 mixed with water, drunk; this causes vomiting whereby stomach is rinsed out and person assured of sound, dreamless slumber. Cupful of decoction sufficient for 6 people; those who drank tobacco thus "mainly old people, although young ones sometimes drank it, too" (MM). SM in 1932 drinking tobacco every night; "he doesn't dream bad dreams then" (MM). Whether person took it alone or with group optional.
[756] Tobacco without lime smoked by old men and by
276 male shamans while curing patients. Women and female shamans or witches did not smoke. Chunk
887 of tobacco broken off ball, finely crushed in